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GEOLOGIC DISCUSSION
FOR
UNORTHODOX LOCATION
FOR
BETTIS, BOYLE & STOVALL
#1-A LOTOS FED. COM.
W/2 OF SECTION 15, T-24-S, R-31-E
EDDY COUNTY, NEW MEXICO

The Bettis, Boyle & Stovall #1-A Lotos Fed. Com. is being proposed as a Devonian-Morrow well to be drilled to a total depth of 16,600'. It is a Morrow offset to the Bettis, Boyle & Stovall #1 Lotos Fed. Com. located in Section 9, T-24-S, R-31-E, Eddy County, New Mexico. Based on geologic conditions for both Morrow and Devonian, it is felt that the #1-A Lotos Fed. Com. necessitates an unorthodox location in order to assure adequate drainage and maximum reservoir efficiency. This non-standard unit consists of the west 320 acres of Section 15, T-24-S, R-31-E, with the well to be located 660' from the east side boundary and 660' from the north end boundary as shown on the accompanying exhibits.

The Devonian objective for the #1-A Lotos Fed. Com. has been interpreted from subsurface geologic data to be structural in nature. That structure which shows potential trapping for the Devonian is shown on the accompanying Middle Morrow structure map exhibit. The Middle Morrow horizon has been selected for Devonian structural interpretation because it represents the deepest horizon penetrated by most of the Pennsylvanian wells in the area. Structural attitude in the Middle Morrow should closely reflect deep-seated Devonian structure. Therefore, a north-south structural orientation has been projected for the Devonian with the crest located in the NW/4 of Section 15.

The Lotos (Morrow) sand is the primary objective for the #1-A Lotos Fed. Com. and is shown on the accompanying Lotos Sand isopach exhibit. The #1 Lotos Fed. Com. was completed in December of 1988 from the now-designated Lotos sand for a CAOF of 25,188 MCFGPD. Based on extensive regional geologic work, this zone is interpreted to be part of a clastic fan system deposited on a shallow water shelf edge. From the configuration of the Lotos sand isopach, reservoir-quality sand will only cover the W/2 of Section 15. The selected location within the W/2 should afford optimum structural position to assure maximum and efficient drainage of gas reserves attributable to the unit.

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
B, BT S EXHIBIT NO. 5
CASE NO. 9692

The Poker Lake sand in the Upper Morrow is also considered a viable objective for the #1-A Lotos Fed. Com. It, unlike the Lotos sand, is part of a fluvial channel system trending north-south as shown on the accompanying isopach exhibit. The Poker Lake sand produces from this channel system to the north from three wells in the South Sand Dunes field and is productive behind pipe in two others. It was also productive to the south in the plugged-out Pan American #36 Poker Lake Unit in Section 28. The Bettis, Boyle & Stovall #1 Lotos Fed. Com. cut only a two-foot, non-productive remnant along the western edge of the channel. Therefore, the W/2 of Section 15 should afford optimum sand development along this channel. Because of this strong north-south alignment, a W/2 unit should be conformable to reservoir morphology. The proposed location within the unit should, again, provide the highest structural position for total drainage of this unit.

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Geologist